CHAPTER 3

RIGGING RUBBER RAIDING CRAFT

Section I RIGGING ZODIAC MARK III BOAT

NOTICE OF EXCEPTION

THE PROCEDURES IN THIS CHAPTER ARE DIFFERENT FROM THOSE IN FM 10-500/TO 13C7-1-5. AN EXCEPTION TO FM 10-500/TO 13C7-1-5 IS GRANTED. THE PROCEDURES IN THIS CHAPTER MUST BE FOLLOWED.

3-1. Description of Load

The description of the load rigged in this section is given below.

a. Inflated Zodiac Mark III Rubber Raiding Craft. This boat is rigged on a 75-by 144-inch SOCEP with a G-12C, G-12D, or G-12E cargo parachute. The boat weighs 240 pounds. When inflated, it is 75 inches wide, 180 inches long, and 18 inches high. The boat is powered by a 35-horsepower outboard engine that weighs 136 pounds with its 6-gallon fuel tank full. Six paddles weighing a total of 24 pounds are a part of the boat's equipment.

NOTE: A 55-HORSEPOWER ENGINE IS THE LARGEST THAT MAY BE USED ON THE ZODIAC MARK III BOAT.

b. Accompanying Load. An accompanying load weighing at least 650 pounds but no more than 1,170 pounds must be dropped with the boat. The accompanying load illustrated in this chapter consists of six rucksacks weighing 420 pounds; six weapons weighing 42 pounds; and six twin, "72" scuba tanks weighing 420 pounds.

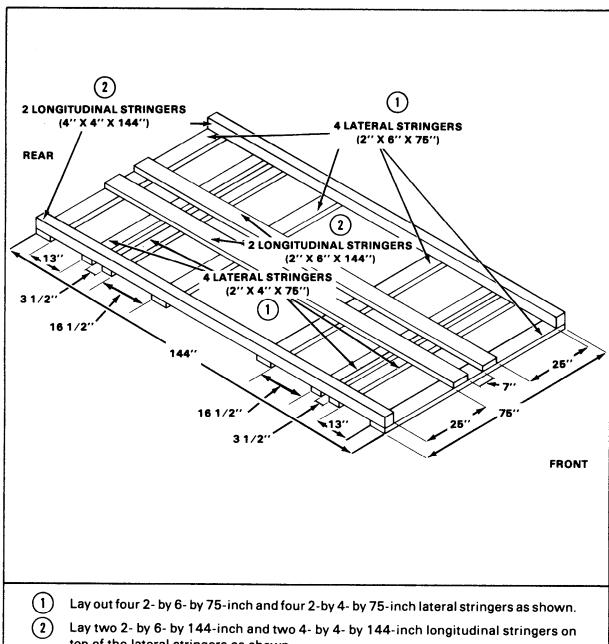
3-2. Preparing Platform

Build a new SOCEP, or recondition a used one, using the procedures described below. This platform is used for all the loads described in this chapter except the IBS bundle.

a. New Platform. When no used SOCEP is available, build a new platform for this

load as shown in Figures 3-1 through 3-4. Salt-treated lumber must be used for the platform frame.

- b. Used Platform. When a used SOCEP constructed for this load is available, inspect and recondition it as described below.
- (1) Inspecting for Damaged or Missing Parts. Check the platform to see that all parts are present. Inspect each part carefully for damage. When the following conditions exist, the platform is not suitable for use until it is repaired:
 - Any part is missing.
 - A stringer or spacer block is broken, cracked, split, or severely gouged.
 - A plywood panel is cracked or gouged through at least one ply for a width of 2 inches or more.
 - A plywood panel is gouged for a length of 12 inches or more.
- (2) Inspecting Parts, Screws, or Nails. Check the entire platform for loose stringers, spacer blocks, and plywood panels. Also check for loose, missing, damaged, or protruding screws or nails. These defects may be corrected as follows:
 - Renail loose parts that are not damaged. Do not nail in original holes or in the grain line used before. Use screws when possible.
 - Replace loose, damaged, or missing nails, screws, and bolts. Reset or remove and replace protruding nails, screws, and bolts.



- top of the lateral stringers as shown.
- Nail the stringers together with twenty-penny nails. Do not nail the extreme corners of the frame where the corners will be cut off (Figure 3-4).

NOTE: TURN THE PLATFORM OVER TO NAIL THE LATERAL STRINGERS TO THE 4-INCH LONGITUDINAL STRINGERS. IF THE PLATFORM IS TO BE REUSED, SUBSTITUTE 4-INCH WOOD SCREWS FOR TWENTY-PENNY NAILS.

Figure 3-1. Platform frame built

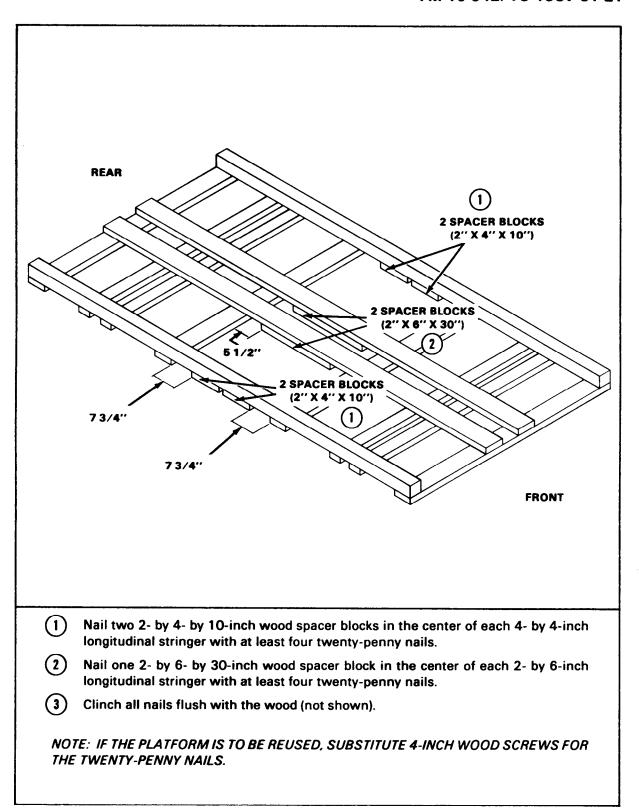
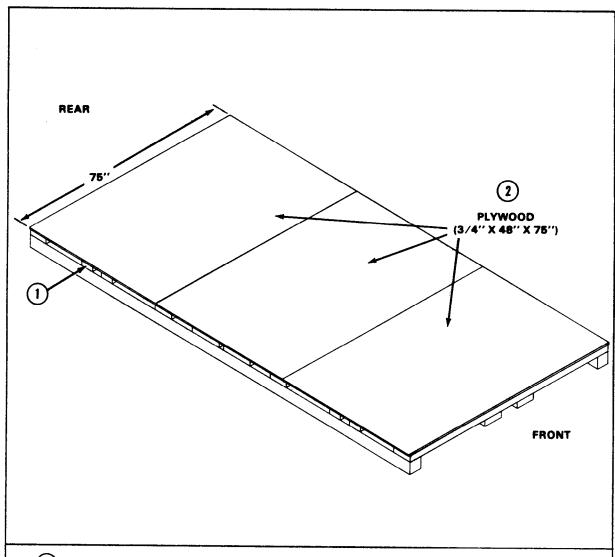


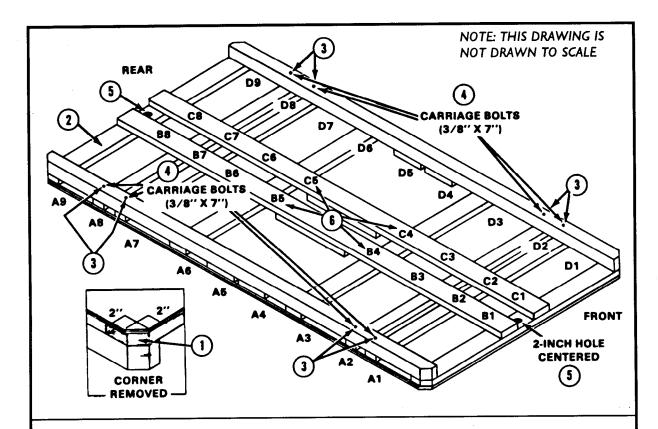
Figure 3-2. Spacer blocks nailed to frame



- 1) Place the frame bottom up to apply the plywood.
- 2 Lay three 3/4- by 48- by 75-inch pieces of plywood on the frame.
- Nail the plywood to the lateral stringers at 6-inch intervals with sixpenny nails (not shown).
- Use eightpenny nails in the plywood where they will penetrate the longitudinal stringers and spacer blocks. Do not drive nails where they will interfere with the holes in Figure 3-4, step 3 (not shown).

NOTE: TO EXTEND THE SERVICE LIFE OF THE PLATFORM WHEN IT IS USED FOR TRAINING DROPS, USE 2-INCH BRASS WOOD SCREWS INSTEAD OF SIXPENNY NAILS AND 2 1/2-INCH BRASS WOOD SCREWS INSTEAD OF EIGHTPENNY NAILS.

Figure 3-3. Plywood nailed to frame



- (I) Cut off each corner of the platform.
- 2 Turn the platform right side up.
- 3 Drill eight 3/8-inch holes in the platform as shown. Make the holes pass through each end of each 2- by 4-inch lateral stringer and the 4- by 4-inch longitudinal stringers.
- Insert a 3/8- by 7-inch carriage bolt into each hole, and bolt each of the lateral stringers to the longitudinal stringers.

NOTE: INSERT BOLTS FROM PLYWOOD DECK SIDE OF PLATFORM.

- 5 Drill a 2-inch hole through the plywood and front lateral stringer centered between the two center longitudinal stringers. Drill a 2-inch hole through the plywood and the rear lateral stringer in the same way.
- 6 Label the number of the tiedown spaces on the longitudinal stringers above the space as shown above.

NOTE: TO EXTEND THE SERVICE LIFE OF THE PLATFORM WHEN IT IS USED FOR TRAINING DROPS, DRILL 3/8-INCH HOLES AND INSERT 5-INCH CARRIAGE BOLTS THROUGH THE ENDS OF THE CENTER LONGITUDINAL STRINGERS. DRILL HOLES AND INSERT 7-INCH CARRIAGE BOLTS THROUGH THE OUTSIDE LONGITUDINAL STRINGERS AND THE LATERAL STRINGERS.

Figure 3-4. Corners cut off, bolts installed, and tiedown spaces numbered

CI, FM 10-542/FMFM 7-51/NAVSEA SS400-AD-MMO-010/TO 13C7-51-21

3-3. Installing Suspension Slings

Install four 16-foot (2-loop), type XXVI nylon webbing slings as suspension slings on the plat-form. Use two type IV link assemblies and two link covers to finish installing the suspension slings as shown in Figure 3-5.

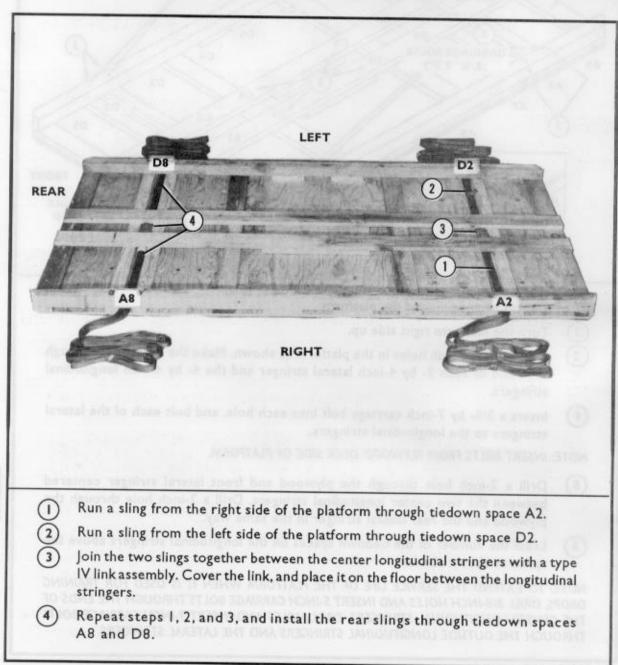


Figure 3-5. Suspension slings installed on platform

3-4. Stowing Sandbags

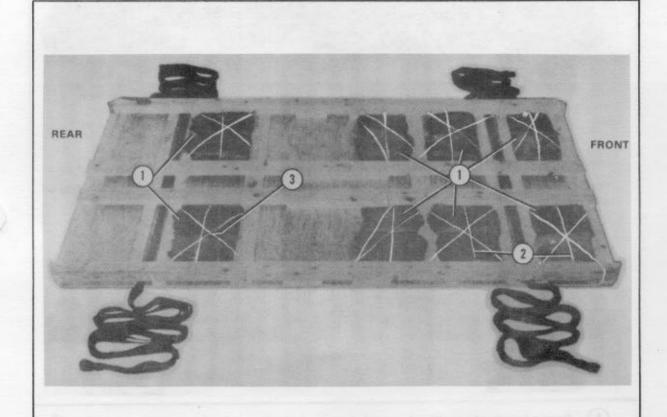
Fill 16 sandbags with 35 pounds of sand or gravel in each bag. Stow the sandbags in the platform recesses as shown in Figure 3-6.

NOTE: FOR TRAINING DROPS, USE LESS SAND OR REMOVE THE SANDBAGS BEFORE DERIGGING THE BOAT.

3-5. Placing and Securing Honeycomb

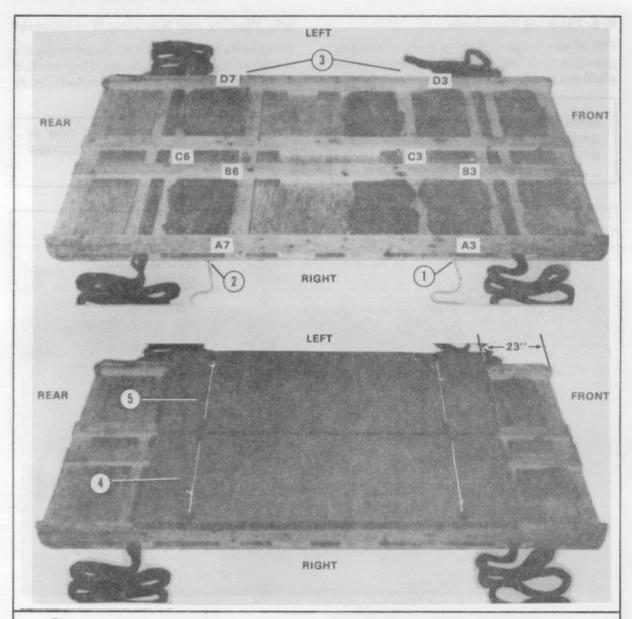
Two sheets of 36- by 96-inch honeycomb are placed on top of the sandbags. They are tied in place with lengths of type III nylon cord as shown in Figure 3-7.

NOTE: USE TAPE UNDER THE TYPE III NYLON CORD TO KEEP IT FROM CUTTING THE HONEYCOMB.



- 1 Lay two sandbags in each platform recess as shown.
- Tie a length of type III nylon cord across both sandbags in each recess and to the appropriate tiedown spaces.
- Form an X over each pair of sandbags with two type III nylon cord ties, and tie the cord to the appropriate tiedown spaces.

Figure 3-6. Sandbags stowed on platform

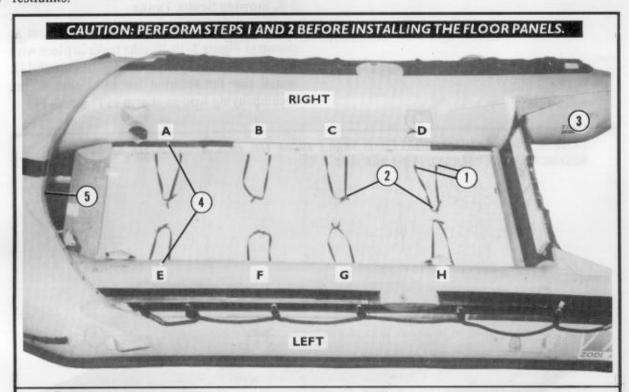


- 1 Pass a length of type III nylon cord through tiedown spaces A3 and B3.
- Pass a length of type III nylon cord through tiedown spaces A7 and B6.
- 3 Pass a length of type III nylon cord through tiedown spaces C3 and D3 (on left side of platform), and another length through tiedown spaces C6 and D7.
- 4 Lay a 36- by 96-inch piece of honeycomb on the right side of the platform 23 inches from the front. Tie the honeycomb in place with the nylon cord placed in steps 1 and 2.
- 5 Lay a 36- by 96-inch piece of honeycomb on the left side of the platform 23 inches from the front. Tie the honeycomb in place with the nylon cord placed in step 3.

Figure 3-7. Honeycomb tied to platform

3-6. Preparing Boat

Prepare the boat as shown in Figure 3-8. Additional ties may be added for forward and aft restraints.



- Drill two 1/2-inch holes in both sides of each floor panel.
- Run a 4-foot length of 1/2-inch tubular nylon webbing through both holes in each side of each panel. Tie the ends of the nylon webbing together with a square knot and an overhand knot in the running ends.

NOTE: IF THE JOHNSON, EVINRUDE, OR MARS ENGINE IS TO BE USED WITH THIS BOAT, DRILL TWO ADDITIONAL HOLES IN THE DECK CENTERED NEAR THE REAR EDGE. RUN A 6-FOOT LENGTH OF 1/2-INCH TUBULAR NYLON WEBBING THROUGH BOTH HOLES TO MAKE A REAR TIFDOWN.

- (3) Install the floor panels, and inflate the boat.
- Start at the front of the boat, and name the in-boat tiedowns on the right side A, B, C, and D. Name the in-boat tiedowns on the left side E, F, G, and H.
- Stow the foot-operated air pump in its stowage pocket in the bow of the boat (not shown).
- Tie chemical lights to the bow of the boat and to the center side carrying handles or ropes with 80-pound cotton webbing if dictated by mission requirements (not shown).

Figure 3-8. Boat prepared

CI, FM 10-542/FMFM 7-51/NAVSEA SS400-AD-MMO-010/TO 13C7-51-21

3-7. Positioning Boat

Set the boat on the platform as shown in Figure 3-9.

3-8. Stowing Scuba Tanks

Lay the six pairs of scuba tanks in the boat as shown in Figure 3-10. Tie the tanks in place with 1/2-inch tubular nylon webbing (Figure 3-11). Install ties for securing the remainder of the accompanying load as shown in Figure 3-11.

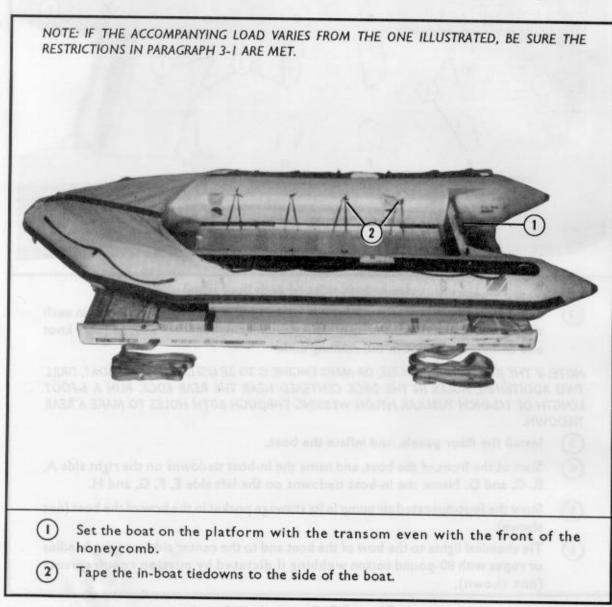
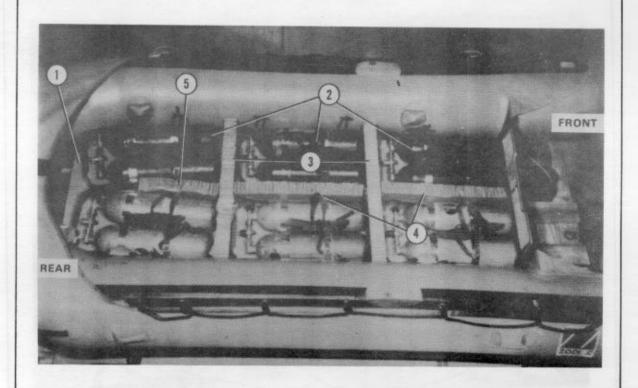
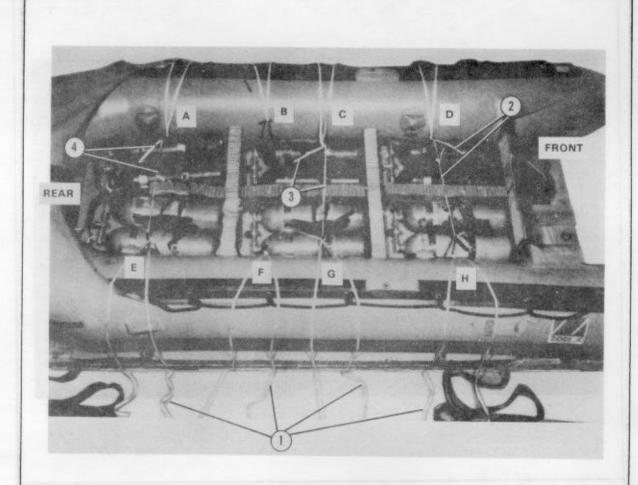


Figure 3-9. Boat positioned on platform



- 1 Cut off the corners of a 36- by 96-inch sheet of honeycomb, and lay it in the floor of the boat.
- Lay the tanks on the honeycomb as shown.
- 3 Place a 7- by 36-inch piece of honeycomb between the rows of tanks.
- Place a 7- by 28-inch piece of honeycomb between the middle and rear pair of tanks.
- 5 Place a 7- by 17-inch piece of honeycomb between the tanks in the bow of the boat.

Figure 3-10. Scuba tanks placed in boat



- 1) Pass a 12-foot length of 1/2-inch tubular nylon webbing through each in-boat tiedown. Even the ends, and tie them in place with a clove hitch. Lay the lengths outside the boat.
- Pass a length of 1/2-inch tubular nylon webbing through in-boat tiedown D, over the first tank, under the second and third tanks, and up through in-boat tiedown H. Tie the ends together.
- Pass a length of 1/2-inch tubular nylon webbing through in-boat tiedown C, over the first tank, under the second and third tanks, and up through in-boat tiedown G. Tie the ends together.
- Pass a length of 1/2-inch tubular nylon webbing through in-boat tiedown A, over the first tank, under the second and third tanks, and up through in-boat tiedown E. Tie the ends together.

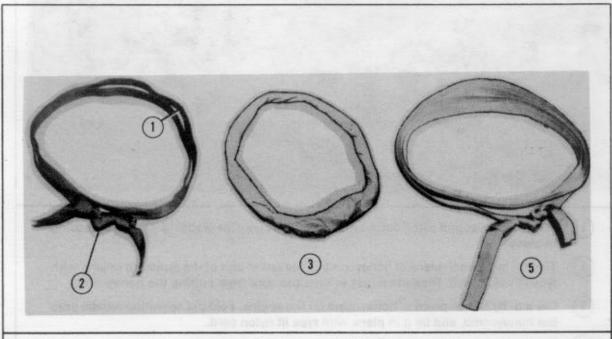
Figure 3-11. Scuba tanks tied in place and accompanying load ties positioned

3-9. Preparing and Stowing Outboard Engines

CAUTION SAFETY THE ENGINE TO A CONVENIENT POINT IN THE BOAT WITH A LENGTH OF 1/2-INCH TUBULAR NYLON WEBBING.

The preparation and stowage procedures for all the outboard engines used with the boats rigged in this manual are given below.

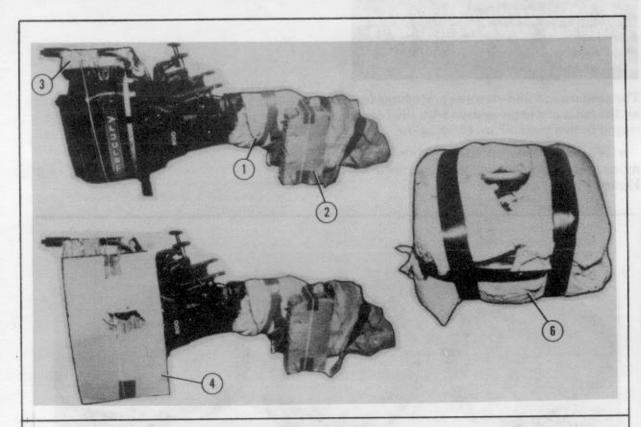
a. Making Tiedown Rings. Make three nylon webbing tiedown rings as shown in Figure 3-12.



- Use a 60-inch length of 1-inch nylon webbing to make a two-ply tiedown ring 10 inches in diameter.
- Tie the ends of the webbing together with a square knot, and tie an overhand knot in each free end.
- Wrap the nylon webbing ring with tape.
- 4 Repeat steps 1 through 3 to form a second tiedown ring (not shown).
- 5 Use a 120-inch length of 1-inch tubular nylon webbing to make a four-ply tiedown ring 10 inches in diameter. Tie the nylon as in step 2. Wrap the ring as in step 3.

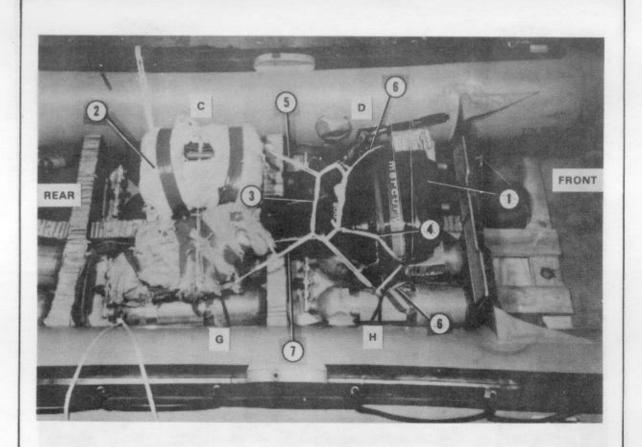
Figure 3-12. Tiedown rings formed

b. Preparing and Stowing Mercury Engines. Prepare the Mercury outboard engine and fuel tank as shown in Figure 3-13. Lay the engine and fuel tank on the scuba tanks, and tie them in place as shown in Figure 3-14.



- Wrap the lower unit of the outboard engine with cellulose wadding. Tape the wadding in place.
- Tie a 6- by 12-inch piece of honeycomb to the lower unit of the outboard engine with type III nylon cord. Tape the edges to keep the cord from cutting the honeycomb.
- 3 Lay a 6- by 6-inch piece of honeycomb on the engine. Fold the operating handle onto the honeycomb, and tie it in place with type III nylon cord.
- Place a 12- by 24-inch piece of honeycomb against the engine. Make a cutout for the shift lever as shown. Tie the honeycomb to the engine with type III nylon cord. Tape the edges to keep the cord from cutting the honeycomb.
- Make sure the fuel tank is at least 1/2 full but no more than 3/4 full (not shown).
- Pad the fuel tank with several layers of cellulose wadding. Do not cover the handle. Tape the wadding in place.
- Put only five gallons of fuel in each container if collapsible plastic containers are used. Force out all air before closing them. Pad between plastic tanks and engine or other equipment with 1/2-inch felt (not shown).

Figure 3-13. Mercury outboard engine and fuel tank prepared

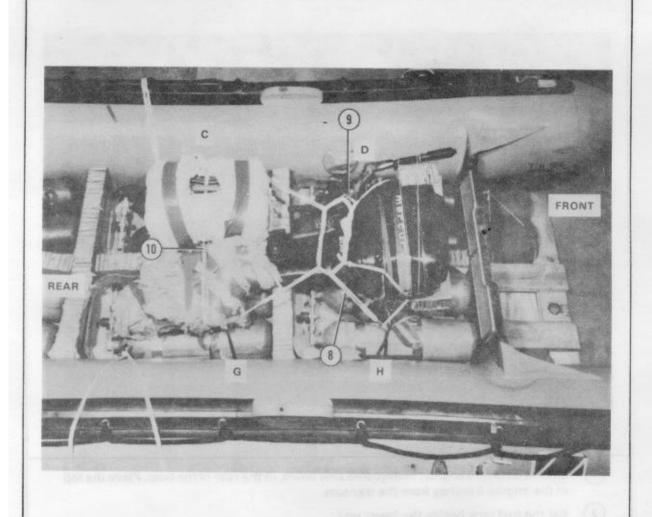


- 1 Lay the outboard engine, honeycomb side down, in the rear of the boat. Place the top of the engine 3 inches from the transom.
- 2 Set the fuel tank beside the lower unit.
- (3) Lay a two-ply tiedown ring (Figure 3-12) on the middle unit of the outboard engine.

NOTE: KEEP THE 10-INCH TIEDOWN RING CENTERED OVER THE MIDDLE UNIT OF THE OUTBOARD ENGINE WHILE SECURING THE ENGINE. USE THE PROCEDURES IN FIGURE 3-21 TO MAKE EACH TIE TO THE TIEDOWN RING.

- Pass one end of the webbing from tiedown D under the engine, up over the engine, and through the tiedown ring.
- Pass one end of the webbing from tiedown C through the tiedown ring.
- Pass one end of the webbing from tiedown H under the engine, up over the engine, and through the tiedown ring.
- Pass one end of the webbing from tiedown G through the tiedown ring.

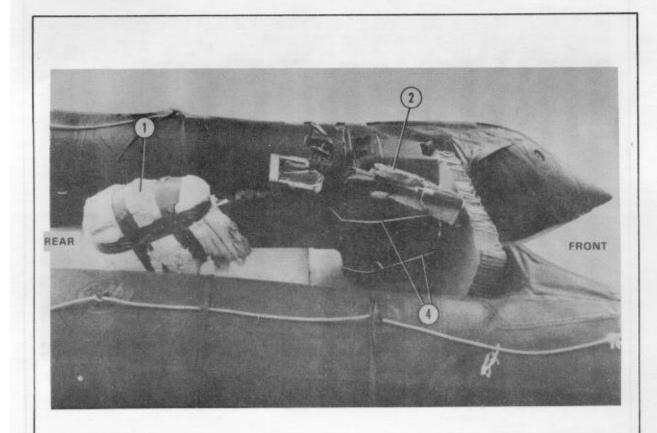
Figure 3-14. Mercury outboard engine and fuel tank stowed in boat



- 8 Pass the webbing from tiedown H through the tiedown ring.
- Pass the webbing from tiedown D through the tiedown ring.
- (10) Run the webbing from tiedown C through the fuel tank handle. Tie it to the nylon from tiedown G.

Figure 3-14. Mercury outboard engine and fuel tank stowed in boat (continued)

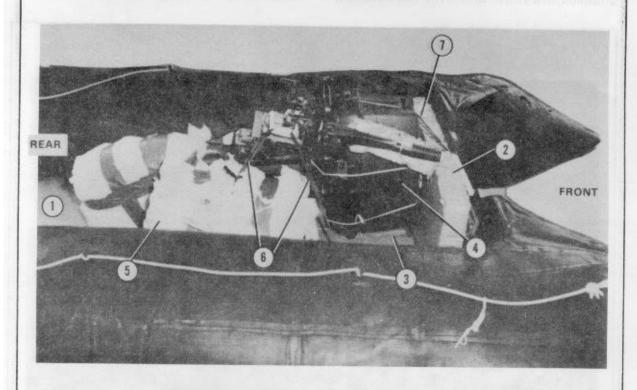
c. Preparing and Stowing Johnson and Evinrude Engines. Prepare the Johnson Sea Horse and Evinrude outboard engines as shown in Figure 3-15. Set the engine and fuel tank in the boat, and secure them as shown in Figure 3-16.



- Wrap the lower unit of the outboard engine with cellulose wadding. Tape the wadding in place.
- 2 Tie a 3- by 12-inch piece of honeycomb between the operating handle and the engine cover with type III nylon cord.
- Place two thicknesses of honeycomb, 8 inches wide and cut to fit, under the shaft housing of engines larger than 35 horsepower (35 horsepower engine shown). Glue them flat between the shaft housing and the honeycomb deck placed earlier (not shown).
- (4) Tie the engine cover in place with two lengths of type III nylon cord.
- (5) Pad the fuel tank as shown in Figure 3-13.

Figure 3-15. Johnson Sea Horse or Evinrude engine prepared

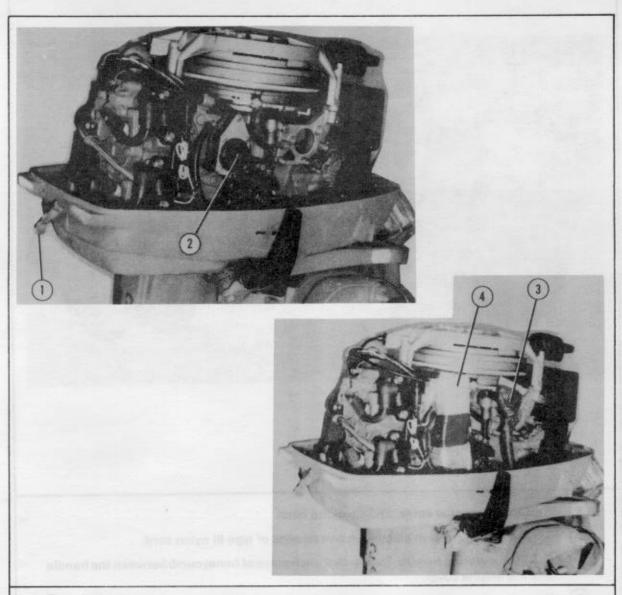
NOTE: SCUBA TANKS CANNOT BE PLACED UNDER JOHNSON SEA HORSE AND EVINRUDE ENGINES.



- 1) Set a 36- by 96-inch piece of honeycomb in the floor of the boat.
- Set an 18- by 36-inch piece of honeycomb against the transom.
- Cut a 6- by 8-inch cutout in the center of the 36-inch side of an 18- by 36-inch piece of honeycomb. Lay the honeycomb on the 36- by 96-inch piece of honeycomb with the cutout against the 18- by 36-inch honeycomb in step 1.
- Set the rear of the engine on the 18- by 36-inch honeycomb with the top of the engine against the transom honeycomb.
- 5 Set the fuel tank beside the engine as shown.
- Tie the engine and fuel tank in the boat as shown in Figure 3-14. Center the tiedown ring on the engine mounting bracket.
- Bring the rear tiedown from the rear tiedown holes over the transom and engine cover, and tie it to the tiedown ring. (See Figure 3-8, Note.)

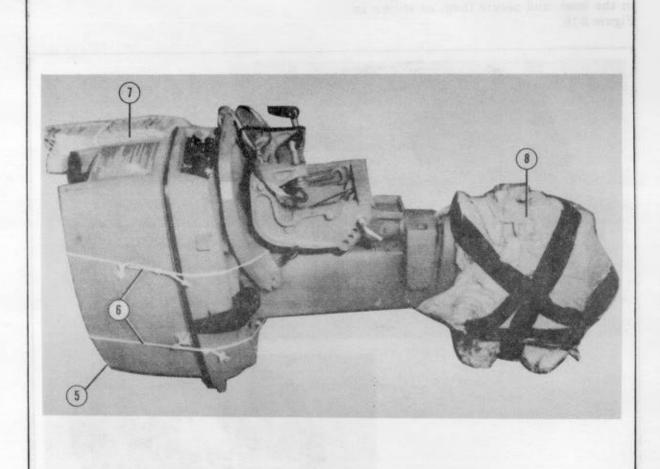
Figure 3-16. Johnson Sea Horse or Evinrude engine and fuel tank stowed

d. Preparing and Stowing Mars Engine. Prepare the Mars engine as shown in Figure 3-17. Set the engine and fuel tank in the boat, and secure them as shown in Figure 3-18.



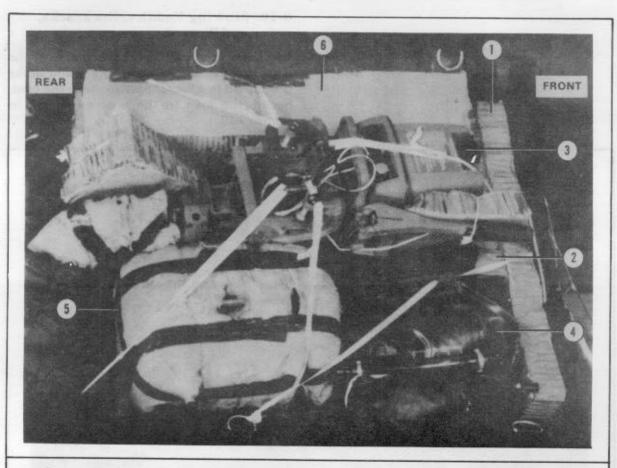
- 1) Open the cover latch, and remove the engine cover.
- Unscrew the fuel filter from the fuel pump. Leave the fuel filter attached to the hose.
- 3 Wrap the filter with plastic and tape.
- (4) Wrap the fuel pump with plastic and tape.

Figure 3-17. Mars engine prepared



- (5) Replace the engine cover, and close the latch.
- 6 Tie the engine cover in place with two lengths of type III nylon cord.
- Fold the operating handle. Tie a 4- by 9-inch piece of honeycomb between the handle and the engine cover.
- (8) Wrap the lower unit with cellulose wadding and tape.

Figure 3-17. Mars engine prepared (continued)

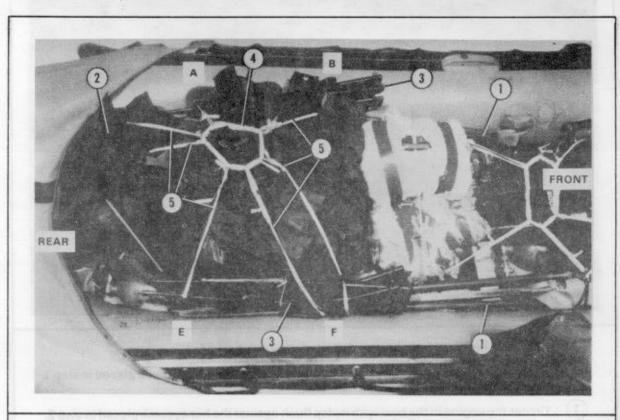


- 1) Set a 13- by 36-inch piece of honeycomb against the transom.
- Set a 9- by 22-inch piece of honeycomb lengthwise against the piece placed in step 1 and flush against the left side of the boat.
- 3 Center the engine in the boat with its top flush against the honeycomb placed in step 2.
- Set a collapsible plastic fuel tank to the right side of the boat beside the engine. Pad between the tank and the engine with 1/2-inch felt.
- Set a wrapped metal fuel tank against the engine shaft housing.
- 6 Fill the space to the left of the engine with supplies, additional tanks, or honeycomb so that the engine does not move. Pad any item that may contact the engine with honeycomb.
- Adapt the procedures shown in Figures 3-14 and 3-16 for securing the engine and fuel tanks.

Figure 3-18. Mars engine and fuel tanks stowed

3-10. Stowing Paddles, Rucksacks, and Weapons

Lay three boat paddles on each side of the boat. Set the rucksacks on the scuba tanks (Figure 3-11). Place the weapons in the boat. Secure the load in the boat as shown in Figure 3-19.



- 1) Lay three paddles along each side of the boat as shown.
- Set the rucksacks on the scuba tanks in the bow of the boat with the racks up.
- Tie the weapons together in two groups of three weapons with type III nylon cord. Lay the weapons beside the rucksacks and on top of the paddles on each side of the boat.
- (4) Place a two-ply tiedown ring (Figure 3-12) in the center of the rucksacks.

NOTE: MAKE THE TIES TO KEEP THE TIEDOWN RING IN THE MIDDLE OF THE RUCKSACKS. PASS THE TIEDOWN NYLON THROUGH THE RUCKSACK FRAMES AND THROUGH THE TIEDOWN RING.

Make the 1/2-inch tubular nylon ties from tiedowns A, B, E, and F to the tiedown ring. Adapt the knot used in Figure 3-21 by tying a loop in the standing end. Bring the running end through the ring, and tie it to the loop.

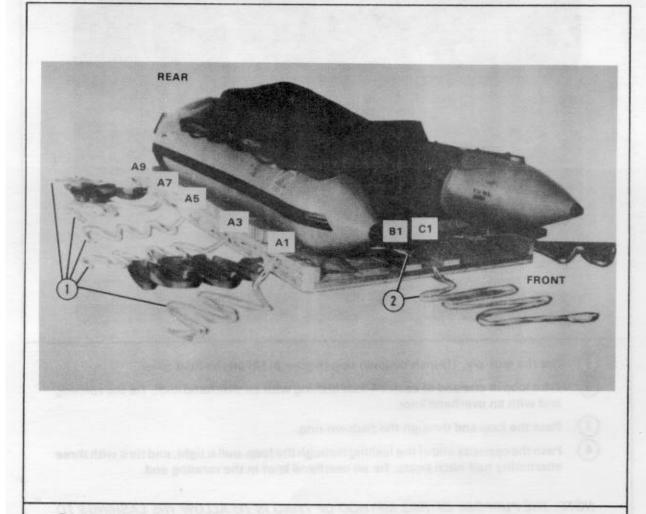
Figure 3-19. Paddles, rucksacks, and weapons stowed in boat

3-11. Installing Load Cover

Spread a 5- by 10-foot piece of cotton duck cloth over the accompanying load in the boat. Push the edges of the cloth down between the load and the sides of the boat (Figure 3-20).

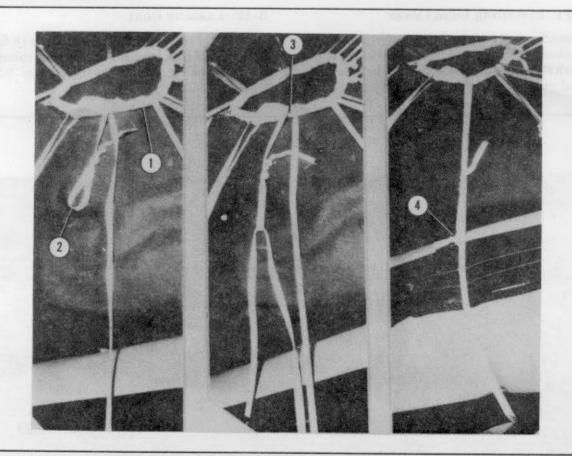
3-12. Lashing Boat

Lash the boat to the platform with ten 14-foot and two 24-foot lengths of 1/2-inch tubular nylon webbing as shown in Figures 3-20, 3-21, and 3-22.



- Tie the 14-foot lengths of nylon through tiedown spaces A1, A3, A5, A7, and A9 on the right stringer and through tiedown spaces D1, D3, D5, D7, and D9 on the left stringer.
- Pass one end of a 24-foot length of nylon through tiedown spaces B1 and C1. Even the ends, and make an overhand knot about 18 inches from the tiedown spaces.
- Pass one end of the other 24-foot length of nylon through tiedown spaces B8 and C8 (not shown). Even the ends, and make an overhand knot about 18 inches from the tiedown spaces.

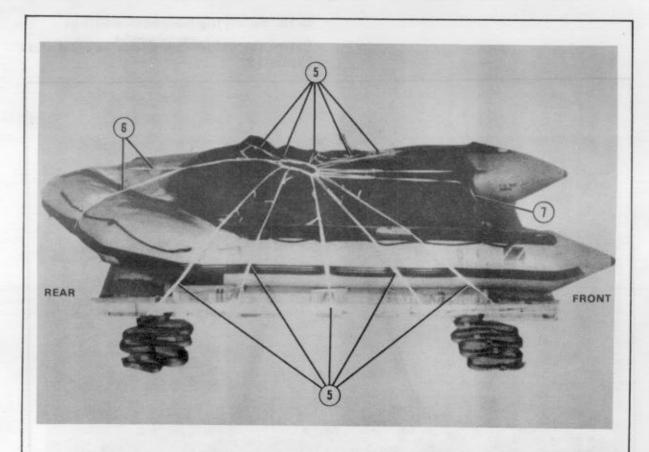
Figure 3-20. Load cover and boat lashings installed



- 1) Set the four-ply, 10-inch tiedown ring (Figure 3-12) on the load cover.
- Tie a loop in one end of each 14-foot lashing with an overhand knot. Tie the running end with an overhand knot.
- 3 Pass the loop end through the tiedown ring.
- Pass the opposite end of the lashing through the loop, pull it tight, and tie it with three alternating half hitch knots. Tie an overhand knot in the running end.

NOTE: THE PURPOSE OF THIS METHOD OF TYING IS TO ALLOW THE LASHINGS TO SLIDE EASILY OFF THE TIEDOWN RING ONCE IT IS CUT.

Figure 3-21. Lashings tied to tiedown ring



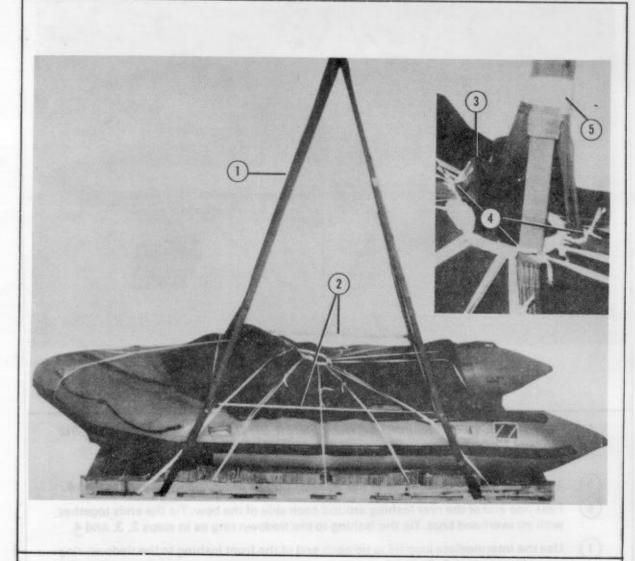
NOTE: KEEP THE TIEDOWN RING IN THE CENTER OF THE BOAT WHILE TYING THE LASHINGS.

- 5 Tie all of the 14-foot lashings to the tiedown ring as described in steps 2, 3, and 4.
- Pass one end of the rear lashing around each side of the bow. Tie the ends together with an overhand knot. Tie the lashing to the tiedown ring as in steps 2, 3, and 4.
- Use the intermediate loop tie to tie each end of the front lashing to the tiedown ring according to steps 2, 3, and 4.

Figure 3-21. Lashings tied to tiedown ring (continued)

3-13. Safetying Suspension Slings

Safety the suspension slings as shown in Figure 3-22.



- 1) Raise the suspension slings.
- Make the deadman's tie 6 to 8 inches above the load as described in FM 10-500/ TO 13C7-1-5.
- 3 Lower the suspension slings until they touch the tiedown ring.
- Tie each sling to the tiedown ring with two lengths of 80-pound cotton webbing.
- Tape the slings together at the tiedown ring and at 2-foot intervals with two turns of paper masking tape.

Figure 3-22. Suspension slings safetied

3-14. Stowing Parachute

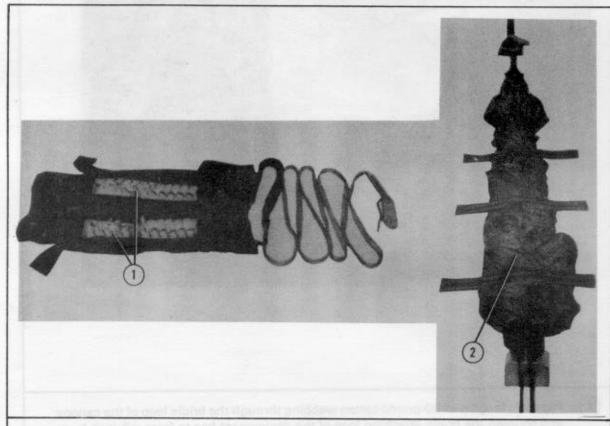
A 15-foot cargo extraction parachute is used to deploy the G-12 cargo parachute after the load is pushed from the aircraft. When used as a deployment parachute for this load, the 15-foot cargo extraction parachute is packed in a T-10 deployment bag.

NOTE: IF THE STANDARD 15-FOOT PARACHUTE DEPLOYMENT BAG IS ATTACHED TO THE PARACHUTE, RE-MOVE THE BAG AT THE BAG RETAINING LINE.

a. Packing the 15-Foot Extraction Parachute. Use the following items to pack the 15-foot cargo extraction parachute in a T-10 deployment bag for use with this load as shown in Figures 3-23 through 3-28:

- One T-10 deployment bag with static line.
- Retainer bands as required.
- 80-pound cotton webbing.
- Ticket number 5 cotton thread.
- One large cargo suspension clevis.

In addition, for a parachute with a 36-inch adapter web, use one 9-foot (3-loop), type X nylon sling and one type IV connector link. For a parachute without a 36-inch adapter web, use one 12-foot (3-loop), type X nylon sling and one 60-inch nylon webbing strap (shear strap).



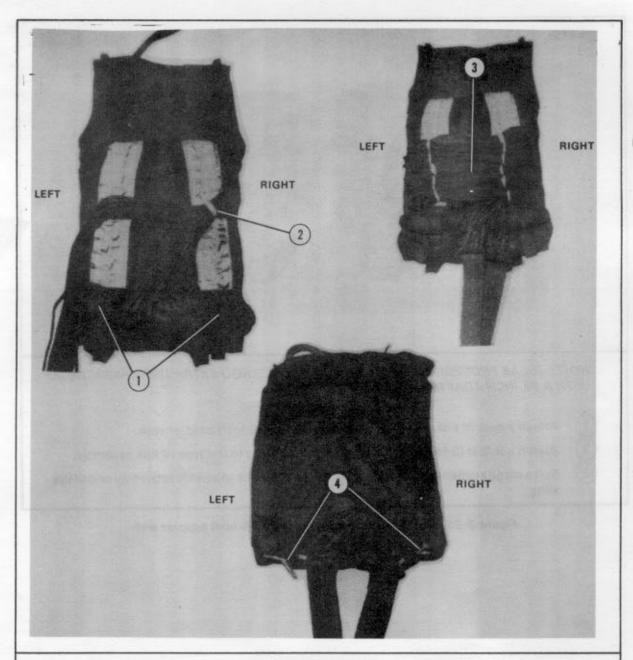
- Attach retainer bands to the first eight stow loops on each side of the T-10 deployment bag.
- 2 Flat fold and long fold the canopy as outlined in TM 10-1670-215-23/TO 13C5-1-102/ NAVAIR 13-1-16.

Figure 3-23. Retainer bands attached and canopy folded



- Pass two lengths of 80-pound cotton webbing through the bridle loop of the canopy and through the bridle attaching loop of the deployment bag to form a 3-inch loop. Cross the ends of the webbing over the bridle attaching loop. Tie them with a surgeon's knot and a locking knot.
- S-fold the canopy into the deployment bag. Start at the upper right corner of the bag.

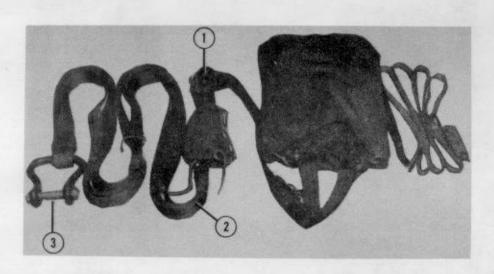
Figure 3-24. Deployment bag attached and canopy stowed



1) Make the locking stows as outlined in TM 10-1670-213-23.

- Make the first suspension line stow in the upper right retainer band.
- 3 Continue stowing the lines from side to side.
- Pass a length of 80-pound cotton webbing through the right side connector link, the connector link loops, and the suspension line protector flap loop. Tie it with a surgeon's knot and a locking knot. Repeat the procedures on the left side.

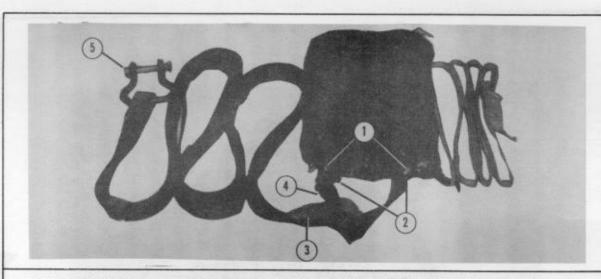
Figure 3-25. Locking stows and suspension line stows made and connector links tied



NOTE: THESE PROCEDURES ARE FOR A 15-FOOT CARGO EXTRACTION PARACHUTE WITH A 36-INCH ADAPTER WEB.

- 1 Attach a type IV link assembly with cover to the 36-inch adapter web.
- Attach a 9-foot (3-loop), type X nylon webbing sling to the type IV link assembly.
- Bolt a cargo suspension clevis (shown) or a type IV link assembly to the free end of the sling.

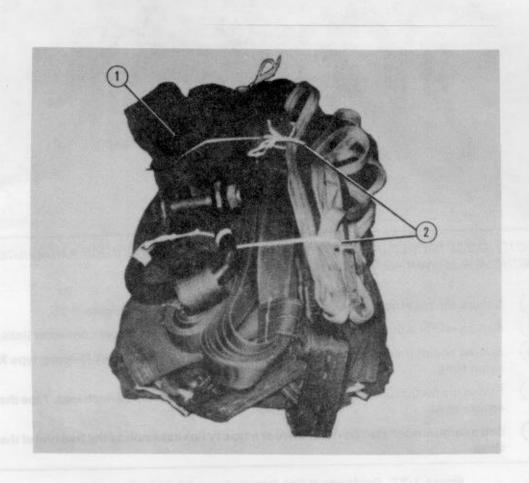
Figure 3-26. Deployment line installed on 36-inch adapter web



NOTE: THESE PROCEDURES ARE FOR A 15-FOOT CARGO EXTRACTION PARACHUTE WITHOUT A 36-INCH ADAPTER WEB.

- 1) Secure the parachute connector links the same as in step 4 of Figure 3-25.
- (2) Run an end of a 60-inch shear strap through both of the parachute connector links.
- 3 Run an end of the 60-inch shear strap through an end of a 12-foot (3-loop), type X nylon sling.
- 4 Fasten the friction adapter, and adjust the shear strap to form a 12-inch loop. Tape the excess strap.
- Bolt a cargo suspension clevis (shown) or a type IV link assembly to the free end of the sling.

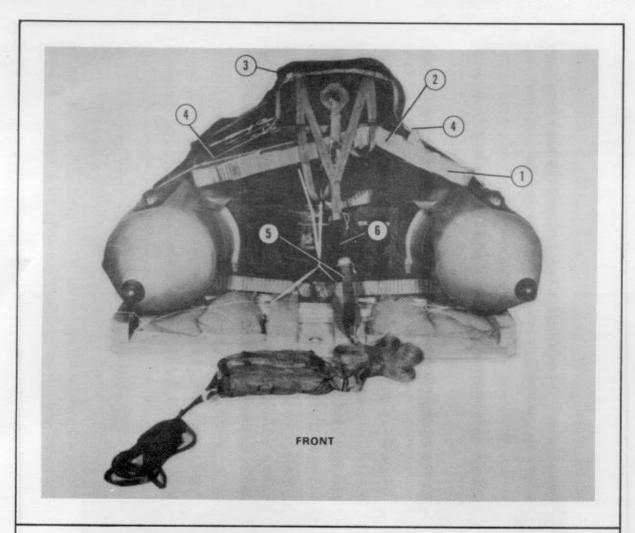
Figure 3-27. Deployment line installed on a 60-inch shear strap



- S-fold the deployment line and the static line. Place them on top of the deployment bag.
- Secure the deployment line and the static line in place with two lengths of 80-pound cotton webbing wrapped around the lines and bag.

Figure 3-28. Cargo extraction parachute packed in a T-10 deployment bag

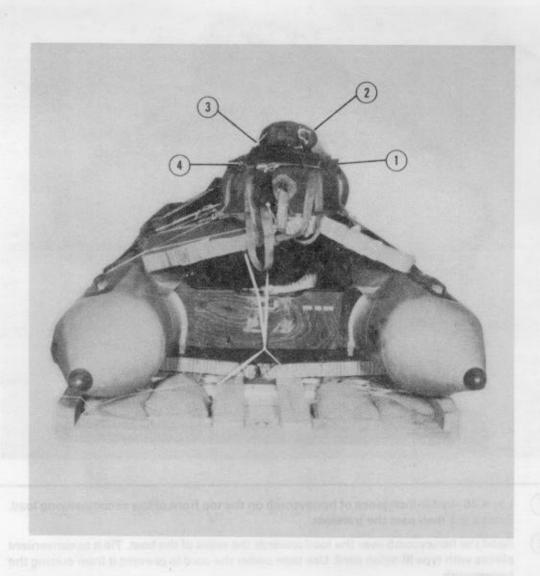
b. Stowing G-12 Cargo Parachute and 15-Foot Cargo Extraction Parachute. Prepare one G-12 cargo parachute. Stow it as shown in Figure 3-29 and according to FM 10-500/TO 13C7-1-5. Stow the 15-foot cargo extraction parachute as shown in Figures 3-29 and 3-30.



- Lay a 36- by 55-inch piece of honeycomb on the top front of the accompanying load.

 Extend it 1 inch past the transom.
- Bend the honeycomb over the load towards the sides of the boat. Tie it to convenient places with type III nylon cord. Use tape under the cord to prevent it from cutting the honeycomb.
- Set a G-12 cargo parachute on top of the honeycomb with the bridle toward the front of the platform.
- Tie each corner of the parachute to the platform with one length of 80-pound cotton webbing.
- Attach the 9-foot sling from the 15-foot cargo extraction parachute to the G-12 cargo parachute deployment bag with a cargo suspension clevis or a type IV link assembly.
- 6 Cover the clevis or link with the appropriate cover.

Figure 3-29. G-12 cargo parachute positioned on load and 15-foot cargo extraction parachute attached



- 1 Lay the 9-foot sling (of the cargo extraction parachute) on top of the G-12 cargo parachute.
- 2) Set the 15-foot cargo extraction parachute on top of its sling.
- Tie the extraction parachute to the G-12 cargo parachute with four lengths of ticket number 5 cotton thread.
- Fit rubber retainer bands to the riser retaining loops. Fold the static line, and hold the folds in place with the rubber retainer bands.

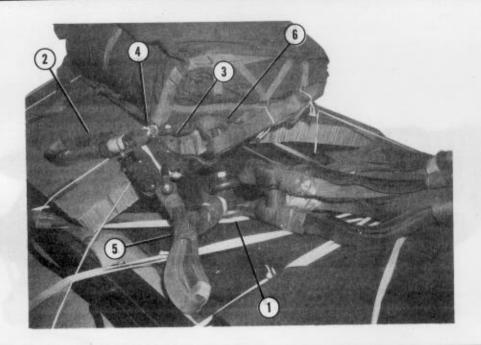
Figure 3-30. Parachutes stowed

3-15. Installing Parachute Release

Use the M-1 or the 5,000-pound-capacity cargo parachute release on this load. Prepare, install, and safety the release as shown in FM 10-500-2/TO 13C7-1-5 and Figure 3-31.

NOTE: THE HYDRAULIC RELEASE IS AUTHORIZED FOR NAVY AND AIR FORCE USE.

CAUTION: THE RELEASE LINK MUST ALWAYS BE PLACED IN THE HIGH-WEIGHT NOTCH OF THE 5,000-POUND-CAPACITY CARGO PARACHUTE RELEASE ASSEMBLY.



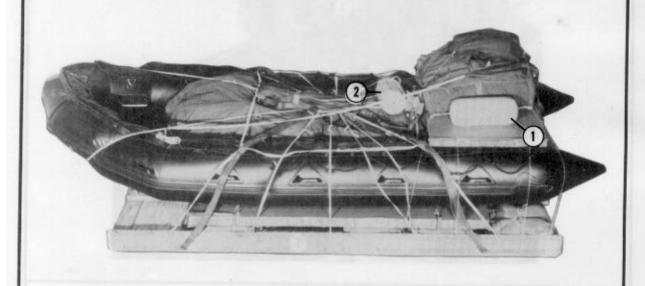
- Attach the link assembly 3-foot sling to the cargo suspension clevis attached to the load suspension slings.
- Attach a 3-foot sling to the yoke assembly.
- 3 Attach the yoke assembly 3-foot sling to the G-12 riser clevis.
- Safety the release to a parachute carrying handle with two lengths of 80-pound cotton webbing.
- 5 Tape the 3-foot slings.
- (6) Remove the left secondary bag closing tie (not shown).

Figure 3-31. The 5,000-pound-capacity parachute release installed

3-16. Flotation for Training Loads

Use flotation devices on training loads to help recover the parachute and parachute deployment bag. Install the flotation devices as shown in Figure 3-32. Recommended flotation devices include dock bumpers, life preservers, diving buoys, and two 12- by 12-inch pieces of honeycomb taped with waterproof tape.

NOTE: THIS IS A ZODIAC MARK III FUTURA BOAT. THIS PHOTOGRAPH IS TO SHOW FLOTATION DEVICES ONLY.



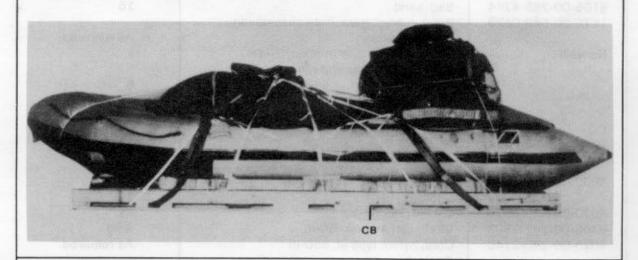
- Tie one flotation device to the G-12 cargo parachute deployment bag clustering straps with type III nylon cord.
- Tie one flotation device to the 3-foot sling between the parachute risers and the parachute release assembly with type III nylon cord.

Figure 3-32. Flotation devices tied to load

3-17. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 and as shown in Figure 3-33. If the accompanying load varies from the one shown, the weight, height, and CB must be recomputed.

CAUTION MAKE THE FINAL RIGGER INSPECTION REQUIRED BY FM 10 500 TO 13C7 1 5 BEFORE THE LOAD LEAVES THE RIGGING SITE



RIGGED LOAD DATA

Weight		70 pounds
Height		60 inches
Width		75 inches
Length		84 inches
Overhang:	Front	17 inches
	Rear	23 inches
CB (from from	t edge of platform)	60 inches

Figure 3-33. Zodiac Mark III rubber raiding craft fully rigged

3-18. Equipment Required

The equipment needed to prepare and rig this load is listed in Table 3-1. Additional items may be listed with the load description.

Table 3-1. Equipment required for rigging rubber raiding craft for low-velocity airdrop

National Stock Number	ltem	Quantity
8105-00-285-4744	Bag, sand	16
1670-00-568-0323	Band, rubber, parachute suspension line retainer	As required
No NSN	Bolt, carriage, 3/8-in diam, 7-in	
	long, w washer and nut	
	(Add eight for training.)	8
	Bolt, carriage, 3/8-in diam, 5-in	
	long, w washer and nut	
	(Use for training.)	4
1377-00-958-1048	Cartridge, time-delay, 20-sec	
	(for 5,000-lb release)	1
4030-00-090-5354	Clevis assembly, suspension,	
	large, 1-in	1
4030-00-678-8560	Clevis, riser, G-13	1
8305-00-242-3593	Cloth, cotton duck, 60-in	4 yd
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
	Cover:	
1670-00-360-0329	Link or	2
1670-00-360-0328	Clevis, large	1
8135-00-664-6958	Cushioning material, packaging,	
	cellulose wadding	As required
1670-00-590-9909	Deployment bag, parachute, cotton	1
	Link assembly:	
1670-00-217-2421	Parachute connector	2
1670-00-783-5988	Single, type IV	3
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	4 sheets
	6- by 6-in	(1)
	6- by 12-in	(1)
	7- by 17-in	(1)
	7- by 28-in	(2)
	7- by 36-in	(2)
	36- by 55-in	(1)
	36- by 96-in	(3)
	Parachute:	
1670-00-272-8955	Cargo, G-12C or	1
1670-00-893-2371	Cargo, G-12D or	1
1670-01-065-3755	Cargo, G-12E	1

Table 3-1. Equipment required for rigging rubber raiding craft for low-velocity airdrop (continued)

National Stock		
Number	ltem	Quantity
1670-00-052-1548	Cargo extraction, 15-ft (new)	1
	Platform, combat-expendable:	
	Lumber:	
5510-00-220-6446	2- by 4- by 10-in	4
	2- by 4- by 75-in	4
5510-00-220-6448	2- by 6- by 30-in	2
	2- by 6- by 75-in	4
	2- by 6- by 144-in	2
5510-00-220-6274	4- by 4- by 144-in	2
5045 00 040 4053	Nail, steel, wire, common:	
5315-00-010-4657	6d	As required
5315-00-010-4659	8d	As required
5315-00-164-5121	20d	As required
5530-00-128-4981	Plywood, 3/4- by 48- by 75-in	3
1277 00 700 0404	Release, cargo parachute:	_
1377-00-799-8494	5,000-lb or	1
1670-01-097-8816	M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3788	For 5,000-lb release:	
1670-01-062-6301	3-ft (3-loop), type X nylon webbing or	2
1070-01-002-0301	3-ft (2-loop), type XXVI nylon webbing	2
1670-00-753-3631	For deployment line:	4
1670-01-062-6304	9-ft (3-loop), type X nylon webbing or	1
1070-01-002-0304	9-ft (2-loop), type XXVI nylon webbing	_
	(Use w adapter web.)	1
1670-00-823-5042	For platform suspension: 16-ft (3-loop), type X or	Ā
1670-01-063-7761		4
1670-00-368-7486	16-ft (2-loop), type XXVI Strap, webbing, nylon	4
1070-00-300-7400	(shear strap), 60-in	4
7510-00-266-5016	Tape, adhesive, 2-in	
3125-00-074-5124	Tape, adhesive, cloth-backed,	As required
3120 00 074 3124	type IV, 2-in	A = ===
	Thread, cotton:	As required
3310-00-194-4065	ticket number 5 or	As required
3310-00-917-3945	8/7 cord	As required As required
3010 00 017 0040	Webbing:	As required
3305-00-268-2411	Cotton, 80-lb	As required
3305-00-082-5752	Nylon, tubular, 1/2-in,	As required
	1,000-lb, natural	As required
3305-00-268-2455	Nylon, tubular, 1-in	As required As required